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Risk Factors for Infant *Campylobacter* Infections: A FoodNet Case-Control Study

Biography:

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Background:

Campylobacter is an important cause of foodborne illness in infants (children <12 months old), but little is known about the sources of infection among infants.

Methods:

Eight sites in the Foodborne Diseases Active Surveillance Network (FoodNet) participated in a 24 month case-control study conducted in 2002-2004. Frequency matched well controls were identified from birth registries or published birth

announcements. Parents or guardians of eligible cases and controls were interviewed by telephone using a standard questionnaire. Logistic regression models for 3 age categories (<3, 3-6, and >6 months) were used to identify age-specific risk factors for campylobacteriosis in the 5 days before illness (cases) or interview (controls).

Results:

In total, 123 cases and 928 controls were enrolled in the study. For infants <3 months, breastfeeding was inversely associated with disease (Odds Ratio [OR]= 0.2, 95% confidence interval [CI]= 0.1-0.9); consumption of concentrated formula, which is diluted with water before consumption, was a risk factor (OR= 4.4, CI= 1.1-18). For infants 3-6 months, breastfeeding was inversely associated with disease (OR=0.3, CI=0.1-0.9); consumption of well water (OR= 4.6, CI= 1.0-20) and riding in a shopping cart next to meat or poultry (OR= 4.8, CI= 1.3-17) were risk factors. For infants >6 months risk factors included visiting or living on a farm (OR= 6.2, CI= 2.2-17) and having pets with diarrhea in the home (OR= 7.6, CI= 2.1-28). Among children >3 months, travel outside the US was a rare but significant risk factor.

Conclusion:

Risk factors for *Campylobacter* infection vary by age among infants and prevention measures should be targeted accordingly. Breastfeeding is protective in this high-risk age group. The risk factors of formula and well water suggest a role for contaminated water. Other risk factors suggest transmission from the environment, including indirect contact with raw meat or poultry during shopping.

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